# Jeopardy Assessment

For the Proposed Incidental Taking Authorization of the
Butler's Garter Snake

## Moss-American Superfund Project- Reaches 2 and 3
## Milwaukee County, Wisconsin

**Background**

The state-threatened Butler's gartersnake is the smallest of the five Wisconsin gartersnake species. Both sexes of this species reach maturity during their second full year and females deliver 4-19 live-born young in mid to late summer. The Butler's garter snake is a colonial species that is restricted to several southeastern counties in Wisconsin. This species requires a moderately open to open canopy habitat, preferably with both upland and wetland habitat. Butler's naturally hibernate in open-canopy wetlands (sedge meadows, fringes of cattail marshes, etc.) but are also known to occupy sites that provide other means for successful overwintering (i.e. old landfills where conditions provide access below the frostline and where adequate moisture exists).

The Butler's gartersnake was listed as a state-threatened species in 1997 for two primary reasons: extensive habitat loss within its very limited range; intergradation with a similar species, the eastern plains gartersnake *Thamnophis radix*. Habitat loss leads the list of threats. In addition, habitat fragmentation has caused populations to become isolated, potentially compromising their genetic integrity. Additional habitat losses will further hamper recovery efforts unless enough sites can be identified and preserved to perpetuate this species.

Intergradation with the plains gartersnake likely continues at the periphery of the Butler's known range, particularly at the southern and western edges of its range, but is expected to lessen as habitat fragmentation isolates populations. This will, in turn, create other management challenges in dealing with the long-term survival of the Butler's gartersnake.

Surveys and monitoring since the snake's listing in 1997 reveal that Butler's can occur in large numbers on relatively small sites (i.e. 400+ snakes detected on a 20-acre site with less than 50% suitable [open canopy] habitat). At sites where Butler's have been well surveyed, their populations tend to show a healthy age-class structure, indicating that regular recruitment is occurring at those locations. Surveys have also demonstrated that Butler's can occur on disturbed and degraded sites.

Range limits for the Butler's gartersnake may be further refined as additional information on genetics and taxonomy becomes available. Changes in range limits may necessitate re-assessing jeopardy policies, by either relaxing or tightening allowable take.

In summary, the Butler's gartersnake is a fast-maturing species with potentially high annual recruitment. The habitats required for this species have and are continuing to be lost due to development pressures within southeastern Wisconsin. Relatively large populations can potentially be sustained on relatively small sites (under 20 acres), which may or may not be degraded, but as these sites become further isolated, their populations may suffer from genetic stagnation. The long-term future of this species remains unclear and the protection of existing habitat seems essential to achieving stability and recovery.

**Jeopardy Assessment**

The proposed Kerr-McGee Moss-American Superfund Project- Reaches 2 and 3 will result in minimal loss of Butler's gartersnake habitat and very minimal taking of the snake itself. Significant project modifications have been made to avoid high quality Butler's habitat, and silt fencing will be placed at such a time as to further minimize snake losses. Habitat restoration following the clean-up activities is required and could improve overall site conditions for the snake. The conditions that Kerr-McGee is required to follow are detailed below. The Department hereby determines that the activities resulting from the clean-up activities is unlikely to jeopardize the Butler's gartersnake population at this location nor will it jeopardize the continued existence or recovery of the state population of these snakes or the whole plant-animal community of which they are a part.

**Required Conservation Measures**

1. Site the wetland mitigation outside of the highest quality snake habitat as proposed in the Butler's Gartersnake Survey Report: Moss-American Reaches 2 and 3, Casper Consulting, December 3, 2003.

2. Follow the construction limits as outlined in the Butler's Gartersnake Survey Report: Moss-American Reaches 2 and 3, Casper Consulting, December 3, 2003, to avoid encroaching on all highest quailty and most primary snake habitat.

3. Install silt fencing by March 15, 2004 between snake habitat and construction areas (see Figure 5 and 6, Butler's Gartersnake Survey Report: Moss-American Reaches 2 and 3, Casper Consulting, December 3, 2003).

4. Maintain silt fence between March 20, 2004 and November 5, 2004 throughout the remainder of the project. Fence inspections must be made three times per week on non-consecutive days and immediately following all significant rain events (>3/4" in a downpour or more than 1.5 inches in a 24 hour period) and repairs must be made within 24 hours of fencing failures (as defined in Casper Consulting's Dec 3, 2003 report ).

5. Develop and implement an ecological restoration plan as proposed in the Butler's Gartersnake Survey Report: Moss-American Reaches 2 and 3, Casper Consulting, December 3, 2003. The Department must approve this plan. The recipient of this authorization is responsible for the plan's implementation.

6. Monitor Butler's gartersnake remediation as proposed in the Butler's Gartersnake Survey Report: Moss-American Reaches 2 and 3, Casper Consulting, December 3, 2003.